

**Air Pollution Control District
Jefferson County, Ky
9 February 2003**

TITLE V PERMIT SUMMARY

Company: Carbide Industries LLC

Plant Location: 4400 Bells Lane Louisville, KY 40211

Date App. Received: April 22, 1997

Date Admin. Complete: 29 May 1997

Rev: 13 June 2000

Date of Draft Permit: 9 February 2003

Date of Proposed Permit: 19 March 2001

District Engineer: Chuck Shannon

Permit No.: 140-97-TV (R1)

Plant ID:0001

SIC Codes: 2813, 2869

NAICS: 32512 & 325199

AFS: 00001

Introduction:

This permit will be issued pursuant to: (1) District Regulation 2.16, (2) Title 40 of the Code of Federal Regulations Part 70, and (3) Title V of the Clean Air Act Amendments of 1990. Its purpose is to identify and consolidate existing District and Federal air requirements and to provide methods of determining continued compliance with these requirements.

Jefferson County is classified as of the date above as an attainment area for lead (Pb), sulfur dioxide (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO), particulate matter (PM), particulate matter less than 10 microns (PM₁₀), and ozone (O₃) (1 hour standard); unclassifiable for particulate matter less than 2.5 microns (PM_{2.5}) and ozone (O₃) (8 hour standard).

Application Type/Permit Activity:

- ☐ Initial Issuance
- ☐ Permit Revision
 - ☒ Administrative
 - ☐ Minor
 - ☐ Significant
- ☐ Permit Renewal

Compliance Summary:

- ☒ Compliance certification signed
- ☐ Compliance schedule included
- ☐ Source is out of compliance

I. Source Description

1. **Class I Area Impacts:** This source is not located in or near a Class I area.
2. **Product Description:** Calcium carbide production under SIC Code 2869, acetylene production under SIC Code 2813 and a byproduct is calcium hydroxide.
3. **Overall Process Description:** Calcium carbide is produced from coke and lime in a submerged electric arc furnace. This is crushed and sized to customer specifications. Calcium carbide is also used to produce acetylene. The acetylene generators also produce the byproduct, calcium hydroxide.
4. **Site Determination:** There are no other facilities that are contiguous or adjacent and under common control.
5. **Emission Unit Summary:**
 - a. U1: Lime Handling Unit
 - b. U2: Coke Handling Unit
 - c. U3: Charge Mix Unit
 - d. U4: Furnace Unit
 - e. U5: Crush Unit
 - f. U6: Pack & Screen Unit
 - g. U7: Above-ground 500 gal. Gasoline Storage Tank
 - h. U8: Acetylene and Hydrate Unit
 - i. U9: Gas-Fired Boiler Unit
 - j. U10: Stormwater Neutralization Unit
 - k. U11: Tote Reconditioning Unit
 - l. U12: Non-halogenated solvent parts cleaner
6. **Fugitive Sources:** These are included in the above applicable Emission Units.

The Fugitive Emission Points (FEP) are facilities which do have fugitive emissions to the ambient air. These are:

 - a. Fugitive emission points, outside and uncontrolled.
 - b. Fugitive emission points, outside and controlled but with some escape from the hood.

- c. Emission points for gases, inside or outside of structures.

7. Title V Major Source Status by Pollutant:

Pollutant	Actual Emissions (tpy) 1999 Data	Major Source Status (based on PTE*)
CO	71.68	Yes
NO_x	0.79	No
SO₂	130.58	Yes
PM₁₀	50.94	Yes
VOCs	776.69	Yes
Total HAPs (VOC and Non-VOC)	<1	No

* Note: PTE is Potential To Emit

8. Applicable Requirements:

☐ PSD ☐ NSPS ☒ SIP ☐ NSR ☐ NESHAPS
☒ District-Origin ☐ MACT* ☐ Other

*Note: The MACTs for ferro alloys manufacturing and Cooling Towers were promulgated by EPA but do not apply to this source.

9. Listing of Significant, Non-applicable, Regulations for the Source:

- a. 40 CFR 63, subpart XXX - National Emissions Standards for Hazardous Air Pollutants for Ferroalloys Production: ferromanganese and Silicomanganese.

There are no applicable requirements imposed on the source, although the source is within the source category, as defined.

- b. 40 CFR 63, subpart Q - National Emissions Standards for Hazardous Air Pollutants for Industrial Process Cooling Towers.

The subject chemicals for which the MACT applies have not been and are not being used in the cooling tower water.

10. Permit Revisions:

Rev 1 The company changed their name, owner, and responsible official. Also permit cover page and insignificant activities language was updated to the current version.

11. Referenced Federal Regulations in Permit:

none

II. Regulatory Analysis

1. Emission and Operating Caps: See Regulation 6.43, Section 9, Volatile Organic Compound Emission Reduction Requirements for the Carbide/Graphite Group attachment 1 to the Title V permit.

2. Compliance Status: The permit application states that all emission units are in compliance with all applicable requirements, with one exception:

U4, EP004 - It's not possible to install a pyrometer in the flare stack to reliably measure the combustion temperature per Reg. 6.10. However, the District believes that the proposed monitoring, record keeping and reporting requirements in the permit are indicative of proper combustion.

The source signed and submitted a Title V compliance certification in its permit application.

3. Operational Flexibility: The source did not request to operate under alternative operating scenarios in its Title V Permit Application.

4. Testing Requirements: None at this time.

5. Monitoring, Record Keeping and Reporting Requirements: The source is required to monitor, maintain records of, and report on various operating parameters to demonstrate ongoing compliance with all applicable requirements. Compliance reporting is required semi-annually, except where underlying applicable regulations or permit conditions require more frequent reporting. See the Additional Conditions in the permit.

a. Opacity

Certain Emission Units will be required to be monitored for compliance with the opacity standard. The frequency of monitoring here was chosen based on these Units record of compliance and operating close to the standard.

Emission Units U1 through U6, U8, U9 and U11 - The source is required to initiate corrective action within 8 hours if visible emissions are observed during regular emission visual surveys. A Method 9 test is required if visible emissions persist. These emission units do not have a history of compliance problems with the opacity standard. The periodic surveys coupled with

Method 9 tests, if necessary, should be adequate monitoring to reasonably assure the source meets its opacity obligations.

b. **VOC**

Emission Units U5, U7, U8 and U11 - Periodic monitoring for the emission units with VOC emissions, consists of monthly record keeping or equipment standards. These procedures, depending on the unit, shall be done for each calendar month.

c. **Particulate**

Emission Units U1 through U6, U8, U9 and U11 - Periodic monitoring for the emission units with Particulate emissions may consist of monthly record keeping, with some derived from daily records. Or, it may consist of periodic monitoring of the pressure drop across the control device. Or, it may consist of no monitoring required.

d. **Sulfur Dioxide**

Emission Unit U4 - The owner or operator must use coke that contains no more than 3% sulfur by weight in the charge mix feed. This ensures that the limit of 2000 ppm for SO₂ emissions is not exceeded. The owner or operator has demonstrated compliance with the standard by calculation which is in the application. Records shall be kept of the % sulfur in coke for the charge mix feed.

6. **Off-Permit Documents:**

The District considers an “off-permit document” as a document on which a source’s compliance with given regulation(s) is contingent or which contains regulatory requirement(s), but is only referenced in a source’s Title V Operating Permit. The designation “off-permit document” shall be made at the District’s discretion, and may include, but not be limited to, documents such as Regulation 1.05 VOC compliance plans, PMPs, MOCS; or other documents which are too voluminous to be included in a source’s Title V Operating Permit, as determined by the District.

There are no off-permit documents associated with this company’s Title V permit.

III. **Other Requirements**

1. **Temporary Facilities:** The Carbide/Graphite Group, Inc. did not request to operate any temporary facilities.
2. **Short Term Activities:** The source did not report any short term activities.

3. **Compliance Schedule/Progress Reports:** The source has certified compliance with all applicable requirements except for that listed in II.2, above; therefore, no compliance schedule or progress reports are necessary.
4. **Emissions Trading:** None.
5. **Acid Rain Requirements:** The source is not subject to the Acid Rain Program.
6. **Stratospheric Ozone Protection Requirements:** Title VI of the CAAA regulates ozone depleting substances and requires a phase-out of their use. This rule applies to any source that manufactures, sells, distributes, or otherwise uses any of the listed chemicals. This source did not identify any listed chemicals in its Title V permit.
7. **Prevention of Accidental Releases 112(r):** The source does not manufacture, process, use, store, or otherwise handle one or more of the regulated substances listed in 40 CFR 68 Sub part F and Regulation 5.15, Chemical Accident Prevention Provisions, in a quantity in excess of the corresponding specified threshold amount.
8. **HAP's:** HAP's are listed in the Permit for each applicable Emission Unit, when they are greater than 1 ton per year of emissions.
9. **Insignificant Activities:** The following activities, as referenced in the source's Title V Permit Application, have been determined by the District to be insignificant.

INSIGNIFICANT ACTIVITIES		
Description	Quantity	Basis
Waste oil storage Tank <10 MM HG	1	Reg 2.02, Section 2.3.9.2
Diesel Storage Tanks Annual Turnover < 2x Capacity	2	Reg. 2.02, Section 2.3.9.2
FEP 174 Diesel Fuel Tank, 5000 gal. FEP1 75 Diesel Fuel Tank, 5000 gal. FEP 176 Diesel Fuel Tank, 2000 gal. FEP 177 Diesel Fuel Tank, 500 gal. FEP195 Heavy Oil Tank, 10600 gal. (installed prior to 1978)	5	Regulation 2.02, Section 2.3.9.2
Natural Gas Boiler	1	Reg. 2.02, Section 2.1.1
Research & Development Lab	1	Reg. 2.02, Section 2.3.2.7
Internal Combustion Engines (Vehicles)	Various	Regulation 2.02, Section 2.2
Brazing Soldering or Welding Operation	1	Regulation 2.02, Section 2.3.4
Emergency Relief Vents or Ventilating Systems	Various	Regulation 2.02, Section 2.3.10

INSIGNIFICANT ACTIVITIES		
Description	Quantity	Basis
Lab Ventilating & Exhaust Systems, Non-Radioactive Materials	Various	Regulation 2.02, Section 2.3.11
Portable Diesel or Gasoline Storage Tanks	Various	Regulation 2.02, Section 2.3.23

- A. Insignificant Activities are only those activities or processes falling into the general categories defined in Regulation 2.02, Section 2, and not associated with a specific operation or process for which there is a specific regulation. Equipment associated with a specific operation or process (Emission Unit) shall be listed with the specific process even though there may be no applicable requirements. Information contained in the permit and permit summary shall clearly indicate that those items identified with negligible emissions have no applicable requirements.
- B. Activities identified In Regulation 2.02, Section 2, may not require a permit and may be insignificant with regard to application disclosure requirements but may still have generally applicable requirements that continue to apply to the source and must be included in the Title V permit.
- i. No facility, having been designated as an insignificant activity, shall be exempt from any generally applicable requirements which shall include a 20% opacity limit for facilities not otherwise regulated.
 - ii. No periodic monitoring shall be required for facilities designated as insignificant activities.
- C. The Insignificant Activities table is correct as of the date of the permit was proposed for review by the USEPA, Region 4. The company shall submit an updated list of insignificant activities annually with the Title V compliance certification pursuant to District Regulation 2.16, section 4.3.5.3.6.